

Introduction

Scope

The Utah Department of Transportation Steel and Concrete Construction Manual is a mandatory part of the Contract Documents for Utah Department of Transportation (UDOT) projects where the Contractor furnishes or rehabilitates fabricated steel or concrete. This manual is an extension of the latest editions of:

- AASHTO Specifications for Highway Bridges
- American Welding Society ANSI/AASHTO/AWS D1.5 Bridge Welding Code
- State of Utah Standard Specification for Road and Bridge Construction

This manual provides standard techniques and methods of inspection, and assumes that the Contractor is thoroughly familiar with the proper specifications.

Periodic revisions, reflecting design and technology developments, will be conducted on a page-by-page basis. The latest revision governs the project at the time the bid is advertised. Note the Page Revision Date in each procedure's Locator Box (see sample below).

Inspection

As the Contractor/Fabricator/Erector, you are responsible for the quality of your work. Quality Control (QC) during fabrication and erection is the responsibility of the Contractor. Verification of the Contractor's "QC" is the prerogative of UDOT. Verification inspection, when performed by UDOT, does not relieve the Contractor of the responsibility for quality materials and workmanship required by the contract specifications.

When materials are fabricated or supplied by sources outside the State of Utah, UDOT's excess costs associated with out-of-state Quality Assurance (QA) testing and verification will be reimbursed by the Contractor.

Definitions

Quality Control (Fabrication/Erection Inspection and Testing) and Quality Assurance (Verification Inspection and Testing) are separate functions. This manual will use the terms Quality Control (QC) and Quality Assurance (QA) as defined below.

Quality Control (Fabrication/Erection Inspection and Testing)

- Quality Control (QC) is performed as necessary during prefabrication, fabrication, and post-fabrication to ensure that materials and workmanship meet the requirements of the Contract Documents.
- The Contractor is responsible for QC unless otherwise provided in the Contract Documents.

- The QC Inspector is the duly designated person who acts for and on behalf of the Contractor on all inspection and quality matters within the scope of the Contract Documents.

Quality Assurance (Verification Inspection and Testing)

- Quality Assurance (QA) is performed in a timely manner to avoid delays in the work.
- The QA Inspector is the duly designated person who acts for and on behalf of the State on all inspection and quality matters within the scope of the Contract Documents.

Inspector Qualifications

Qualified inspectors must be certified as one of the following (except as detailed below):

- An AWS Certified Welding Inspector (CWI) who has been qualified and certified in accordance with the provisions of AWS QC1, "Standard for Qualification and Certification of Welding Inspectors"
- An American Concrete Institute Level One Concrete Inspector
- A UDOT Materials and Research Section-Trained Engineer or Technician

CWI or a certified Associate Welding Inspector must be present in the fabricator's shop during all fabrication activity. The fabricator must give the Materials Engineer written notice 7 days prior to any fabrication.

Assistant Inspectors, who support the QA or QC Inspector, may perform certain supervised inspection functions provided they are qualified by training and experience to perform those functions and are regularly monitored by the Inspector.

Personnel performing nondestructive tests need not be qualified and certified under the above provisions.

Shipment of Rejected Materials or Materials Not Offered for Shop Inspection

When the Contract Documents require shop inspection, materials will not be accepted at the project without the Inspector's mark of acceptance. If materials are not acceptance-marked because they were not offered for shop inspection, or were shipped after rejection at the shop, they will be returned to the shop for inspection and correction, as necessary. The State may, at its discretion, allow inspection to be performed at the project site by the Shop Inspector, the QA Inspector, or the Inspector's representatives. Field inspections are conducted at no additional cost to the Department.

Facilities for Inspection

The Contractor provides the facilities for QA/QC inspection of materials and workmanship at the producing mill and the fabricating shop. Inspectors must be allowed free access to all parts of the

premises that are used in the work. If the QC or QA Inspector is denied access, any work performed during this time period will be automatically rejected.

Inspector Authority

The State Inspector is authorized to reject materials and workmanship that do not conform to the Contract Documents.

State (QA) inspection of materials and workmanship assigned by the Materials Engineer may be conducted before, during, and after fabrication. "In process" inspections (during fabrication) that elicit defective materials or workmanship will be automatically rejected. The QA Inspector may perform, at the State's expense, any nondestructive tests of materials and workmanship. The Materials Engineer may require a State QA inspection at the mill and shop to expedite the work and avoid errors; however, this does not relieve the Contractor of any QC or QA responsibilities.

Inspection by State representatives is not a substitute for Quality Assurance by the Contractor.

Contractor Obligations

The Contractor is responsible for product acceptability. Inspectors make all necessary visual inspections (prefabrication, fabrication, and post-fabrication) to ensure that materials and workmanship meet the requirements of the Contract Documents. The Contractor must comply with all requests of the QA Inspector (whether the Inspector is an employee or the State's representative) to correct deficiencies in materials and workmanship as provided in the Contract Documents.